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ABSTRACT

To determine the effect of different amounts of parental involvement, 80 4-year-old children from lower class homes, enrolled in a compensatory preschool program (class for one-half day, four days per week for a full year) were divided into three groups. Group I received supplementary bi-weekly tutoring from teachers with no parental involvement. Group II was tutored but in the presence of their mothers who became involved. Group III was offered the same tutoring as Group II, and mothers participated in small group discussions about childrearing. The Stanford-Binet and the Peabody Picture Vocabulary Test (PPVT) were given as pretests and posttests to all children. A revised version of the Pupil Behavior Inventory was completed by teachers and two standardized questionnaires were completed by mothers to tap attitudes toward childrearing and cognitive stimulation in the home. No significant differences were found between groups in IQ gain on either the Stanford-Binet or the PPVT, although all groups gained significantly. Significant differences did emerge on factors of parental measures, but not on the teacher rating form. Desirable changes in maternal attitudes were found in the mothers who had been offered opportunity for maximum participation. (Author/AJ)

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THE UNIVERSITY OF MICHIGAN
School of Social Work

# THREE DEGREES OF PARENT INVOLVEMENT IN A PRESCHOOL PROGRAM: IMPACT ON MOTHERS AND CHILDREN

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PS 004832

Paper presented at the Annual Midwestern Psychological Association, Detroit Michigan, May 8, 1971.

Many experimental compensatory preschool programs have incorporated a parent education component into the project in the belief that both parents and children would benefit (Weikart, Kamii, and Radin, 1967; Gray and Klaus, 1965; Deutsch, 1965). Rarely investigated, however, is the effect on parents and on children of adding a parent program to a well-planned preschool class. Karnes (1969) found that youngsters whose mothers participated in parent education sessions showed more growth intellectually than children whose mothers were not offered such a program. In this study, none of the children attended preschool. When Karnes (1969) replicated the investigation, with all of the youngsters attending an enriched nursery, no significant differences were found between the children with and without parent involvement. There was no mention of measurable changes in the participant mothers in the project's report.

Similarly, Adkins (1971) found no significant differences between children whose mothers did or did not attend a parent education program when all the mothers were invited and all the children participated in a Head Start program. Again, no data were offered concerning measurable changes in the mothers involved in the program.

In the 1968-69 school year, the Early Education Program of Ypsilanti, Michigan attempted to determine the impact on both children and mothers of a parent program with two degrees of intensity. The previous year, a curriculum based on Piaget's theory of cognitive development had been initiated with extensive maternal participation in the program (Wittes and Radin, 1971). During the second year of the project, the experimental variable employed was degree of parental

involvement, with other variables controlled. There were 80 four-year old children in the program all from lower-class homes. Each classroom was taught by a teacher and an aide and contained ten youngsters, one-half of whom were black and one-half male. Seventy-one of the children were divided into three experimental groups labeled A, B, and C matched as closely as possible on critical variables. (Nine children who moved, or were given extensive tests in an effort to develop new instruments were not included in the experimental design.) At least three children from each group were placed in each room. Table 1 describes the characteristics of the three groups.

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Group A youngsters were offered an enriched class program one-half day, four days per week for 9 months. In addition, bi-weekly home tutorial sessions were conducted in the presence of the mothers who were encouraged to participate. The mothers in Group A were also actively sought for participation in weekly small group meetings focused on childrearing practices conducive to the development of the child. Group B children participated in the classroom program and the home tutorials with parental involvement. Their mothers were not invited to the small group meetings however. The children in Group C participated in the regular class program and were also given bi-weekly tutoring but their parents were not present during the sessions, nor were they invited to the group discussions.[2]

Two tests of intellectual functioning were administered to all the children at the beginning and end of the school year, the Stanford

Binet Intelligence Scale and the Peabody Picture Vocabulary Test. Similarly, in the fall and spring, the teachers were asked to complete a revised version of the Pupil Behavior Inventory (Vinter, Sarri, Vorwaller, and Schaefer, 1966). In the modification, questions particularly relevant to young children were added. The instrument is a teacher rating form pertaining to classroom behavior.[3] Two instruments were administered to the parents at the beginning and conclusion of the program. One was a questionnaire concerning childrearing attitudes, the Glasser-Radin version of the Parental Attitude Research Instrument (Radin and Glasser, 1965; Schaefer and Bell, 1958).[4] The second was a questionnaire assessing the stimulation present in the home called the Cognitive Home Environment Scale (Radin and Sonquist, 1968).[5]

One year after the end of kindergarten, a follow-up study was made of a stratified sample of the youngsters in the original program. There were eight from each group. These 24 children were administered the Peabody Picture Vocabulary Test and the Wechsler Preschool and Primary Scale of Intelligence (WPPSI).

To determine if there were differences between the groups, a "t" test was used for correlated and uncorrelated data as appropriate. It was hypothesized that increased parent participation would be beneficial on all instruments since it would enhance support for the program and an understanding of the educative process.

## RESULTS

Table 2 indicates the degree of maternal involvement in Group A, B, and C as assessed at the end of the year. It can be seen that in spite

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of absences at group meetings, there was a considerable difference in the number of hours mothers in each group participated in the program. The mother who rarely, or never, attended the meetings was included in the data anlysis of Group A to be certain that unmotivated mothers from one group would not be eliminated. Such a procedure dilutes the effect of the program but eliminates the possibility of a selectivity factor influencing the results.

Table 3 contains the significant changes obtained on the children's

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measures at the end of the preschool year. As the table indicates, there were / no significant differences between groups on the Binet or PPVT. All three groups gained over 12 points on the former test and 13 points on the latter. On the Pupil Behavior Inventory, three factors showed significant gains, Creative Inquisitiveness, Academic Motivation, and Good Student Behavior. In all cases, the gains were significant for all three groups, although in one case the significance was at the .10 percent probability level. There were no significant differences between groups on any of the factors.

Table 4 presents the significant change scores obtained on the

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instruments administered to the mothers. For Group C, the group with no parental involvement, there were no significant changes whatsoever. For Group B, the group with the maximum amount of involvement, changes were obtained on both the PARI and the CHES. Both changes were in the desired direction; the mothers increased the educational materials present in the home and became less approving of authoritarian attitudes such as "Children soon learn there is no greater wisdom than that of their parents." Group B, which had a moderate amount of involvement by mothers, showed a significant change on only the CHES on the factor pertaining to grades expected. Previous studies (Radin and Sonquist, 1968; Radin and Glasser in press) had suggested that an increase in such expectations may create problems as the expectations may be unrealistic. Although this hypothesis has not been confirmed as yet, it does suggest that increasing expectations for grades may not be a desirable change.

Table 5 presents the follow-up data collected one year after the

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termination of the preschool program. It can be seen that there was a sharp difference between Group C, which lost one point in PPVT IQ and the other two groups which gained over 13 points during the kindergarten year in spite of similar scores for all 3 groups at the start of the semester. Only the gain for Group A was significant, however, as there was

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greater variance in the gain scores for Group B. The PPVT IQ changes for Groups A and B were significantly greater than the change obtained for Group C which experienced no parent involvement in the preschool program. The full scale IQ's obtained on the WPPSI revealed a similar trend. The mean scores for the eight children in Groups A, B, and C were 102.6, 97.1, and 96.5 respectively. The differences between the groups were not significant but there was a tendency for the scores to vary with the amount of parental involvement during the preschool year.

## DISCUSSION

The results obtained in this study are concordant with other investigations assessing the effect of a parent program that augments enriched preschool classes. There were no discernible differences in the children at the end of the one-year program. Thus the hypothesis regarding the immediate impact on children of a parent program was disconfirmed. Changes were obtained, however, in the attitudes of mothers involved in the program, with the most change, and the most clearly desirable changes, found in the mothers who were offered the opportunity for maximum participation. The hypothesis regarding the effect on the parents was therefore confirmed.

It was hoped that the changes occuring in the mothers would provide support for further cognitive growth in the youngsters. The limited follow-up study conducted on approximately 34% of the children suggested that such long-term influence was being felt. The group with no parental involvement showed no continuation of intellectual growth as measured by the PPVT and had the lowest WPPSI score. The group showing

the maximum development one year after the termination of the preschool program was the group whose mothers were offered the maximum opportunity for involvement. The group of youngsters whose parents were offered limited involvement was intermediate between the other two groups. Thus the hypothesis regarding the long-term effect of a parent program on the children was partially supported.

The findings of this study suggest that a parent education component is important if the child is to continue to benefit from a compensatory preschool program, although there may be no immediate effect on the youngsters. Perhaps the growth taking place during an enriched class cannot be increased further. A parent program does appear, however, to enhance the mothers' perceptions of themselves as educators of their children. Thus, perhaps new maternal behaviors are fostered which are conducive to the child's development. For maximum impact, it appears that the parent involvement should be intense with opportunities for the parent to interact with the staff on both a one-to-one and small group basis. In this program the focus of the maternal involvement was on the parent's role in the child's development. Whether a program with an entirely different emphasis, or one including fathers as well as mothers, would produce the same results, if not superior ones, remains to be investigated.

## FOOTNOTES

1. This project, including the study reported in this paper, was supported in part by the Department of Health, Education, and Welfare Project #67-042490, funded under Title III of the Elementary and Secondary Education Act of 1965.

2. Fathers were rarely present for the tutoring sessions and were not invited to the group discussions. Thus, although the term "parent program" is used at times, only the mothers were involved.

3. There are eight factors in the revised Pupil Behavior Inventory (called the PBI): Poor Classroom Performance, Creative Inquisitiveness, Good Student Behavior, Poor Physical Condition, Teacher Dependency, Academic Motivation, Anti-social Behavior, and Socio-emotional Adjustment. The revised instrument and its factor analysis are available from the author. A new PBI manual describing the modifications is in preparation, and is available from the author.

4. The revised Parental Attitude Research Instrument (called the PARI) has four factors: Authoritarianism, Equalitarianism, Strictness, and Rejection of the Homemaker Role.

5. The Cognitive Home Environment Scale (called the CHES) has five factors: Educational Materials in the Home, Grades Expected, Future Expectations, Educationally-supportive Activities, and Direct Teaching.

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TABLE 1

Data About Groups at Start of Program (a)

| Variable | Group A (N=28) | Group B (N=22) | Group C (N=21) |
|---|---|---|---|
| Child's Age (Mean number of months Fall 1968) | 53 | 54 | 52 |
| % Boys | 46% | 64% | 33% |
| % Black | 54% | 45% | 57% |
| Binet IQ | 90.7 | 88.9 | 89.9 |
| PPVT IQ | 80.6 | 78.6 | 74.1 |

(a) Only one of the differences between groups is significant. There are significantly more boys in Group B than Group C. Perfect matching could not be obtained on the sex variable when other variables were matched.

TABLE 2

Degrees of Parent Involvement in the Three Groups

| | Group A (N=28)[a] | Group B (N=22) | Group C (N=21)[b] |
|---|---|---|---|
| Mean Number of Hours of Tutoring with Parent Involvement During the Year | 10.6 | 11.1 | 0 |
| Mean Number of Group Meetings Attended During the Year | 6.1 | 0 | 0 |
| Percent of Mothers Attending over Half of the 17 Meetings Held | 39% | 0 | 0 |
| Percent of Mothers Attending at over ½ of the 17 Meetings Held | 53% | 0 | 0 |

(a) This group was deliberately made larger in anticipation that attendance at meetings would be irregular and it was important to have enough people present to have genuine group discussions.

(b) This group of children had a mean of 11.2 hours of tutoring with the mothers not present.

TABLE 3

Significant Changes During the Year on Children's Measures [a]

| Measures | Group A (N=28) | Group B (N=22) | Group C (N=21) |
|---|---|---|---|
| Intellective Measures | | | |
| Binet IQ | 14.0 | 12.6 | 12.9 |
| PPVT | 13.5 | 14.5 | 19.9 |
| PBI Factors | | | |
| Creative Inquisitiveness | .6 | .6 | .8[d] |
| Good Student Behavior | .2[b] | .3[c] | .3 |
| Academic Motivation | .7[d] | .4[c] | .5[d] |

(a) All the changes reflect post-mean scores minus pre-mean scores. Unless otherwise noted, the changes are significant at the .001 probability level in a one-tail test with the degrees of freedom equal to one less than the size of the N. None of the differences between groups were significant.

(b) Significance is at the .10 probability level. The change is included in the table however it is so close to that of the other groups for this factor.

(c) Probability is at the .05 level in a one-tail test with one less degree of freedom than the size of the N.

(d) Probability is at the .01 level in a one-tail test with one less degree of freedom than the size of the N.

TABLE 4

Significant Changes During the Year on Mother's Measures[a]

| Measures | Group A | Group B | Group C |
|---|---|---|---|
| CHES FACTORS | | | |
| Educational Materials in the Home | 2.2* | --- | --- |
| Grades Expected | --- | 1.0[b] | --- |
| PARI FACTOR | | | |
| Authoritarianism | -2.8 | --- | --- |

(a) All the changes reflect post-mean scores minus pre-mean scores. The changes are significant at the .05 probability level with a one-tail test unless otherwise noted. Not all the mothers could be reached for the pre and post testing. For Group A, the N was 23 for both instruments; for Group B it was 19 for the CHES and 18 for the PARI. For Group C the N was 20 for the CHES and 21 for the PARI.

(b) $p < .05$ but a two-tail test was used.

* $p < .01$; one-tail test; 22 d.f.

TABLE 5

Changes on the PPVT During the Kindergarten Year (a)

| Group | Post-Preschool IQ Score | Post-Kindergarten IQ Score | Net Change in IQ During Kindergarten Year | Standard Deviation | Significance of Difference |
|---|---|---|---|---|---|
| A | 91.8 | 105.2 | +13.4 (b) | 13.0 | .05 |
| B | 91.5 | 105.5 | +14.0 (b) | 19.3 | ns ($p<.10$) |
| C | 96.0 | 95.0 | - 1.0 | 9.9 | ns |

(a) All the scores listed are means for the groups. N for each group is 8.

(b) Change is significantly greater than change for Group C at the .05 probability level, in a one-tail test.